DOCUMENT RESUME

ED 158 281 CS 204 263

AUTHOR Wehren, Aileen; And Others
TITLE The Development of Noun Definition.
PUB DATE Mar 78
NOTE 10p.; Paper presented at the Annual Meeting of the American Educational Research Association (Toronto, Canada, March 1978)

EDRS PRICE MF-$0.83 HC-$1.67 Plus Postage.
DESCRIPTORS Adults; *Child Language; *Definitions; Elementary School Students; Language Ability; Language Development; Language Research; *Learning Processes; *Linguistics; *Nominals; *Semantics

ABSTRACT

Research studies have demonstrated that children tend to define nouns by describing first their function and later the object to which they refer. In a study devised to trace the development of noun definition in the language of grade school children and adults, 20 subjects from each of four grade levels (kindergarten and grades two, four, and six) and 20 adults were asked to define 15 common nouns under two separate conditions: with the objects present and without the objects present. Definitions were classified as concrete, functional, or a combination of the two and were analyzed by grade level of subjects, condition, and category. The study revealed that both children and adults consider function to be the main determinant of noun meaning, that concrete aspects are introduced at about the fourth grade and are used to distinguish between and within concepts, and that the use of analogies is a strategy to make a definition more explicit and is not a part of the definition itself. The study supported a cognitive-linguistic explanation of noun definition development in that it showed that a shift from functional to combinatorial definitions occurs with increasing age. (MAI)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

U S DEPARTMENT OF HEALTH,
EDUCATION & WELFARE
NATIONAL INSTITUTE OF
EDUCATION

THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL NATIONAL INSTITUTE OF EDUCATION POSITION OR POLICY

ED158281

The Development of Noun Definition

Aileen Wehren, Richard De Lisi, and Marjorie Arnold

Rutgers, The State University of New Jersey

This study traced the development of noun definition by grade school children and adults (N=100). Subjects were asked to define 15 nouns in one of two conditions: with objects present and without objects present. Definitions were classified as concrete, functional, or combinatorial and were analyzed with a 5x2x3 (grade by condition by category) ANOVA. There was a shift from functional to combinatorial definitions with increasing age, thus supporting a cognitive-linguistic explanation of the acquisition of word meaning.

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY

Aileen Wehren

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC) AND USERS OF THE ERIC SYSTEM."

Paper presented at the American Educational Research Association Annual Meeting, Toronto, 1978. Authors' address: Graduate School of Education, Rutgers University, New Brunswick, New Jersey, 08903.

Printed in the U.S.A.

CS204263

The present study investigated the development of noun definition in grade school children and adults. Noun definition is the meaning attributed to words which refer to a concrete object. Several prior studies (Swartz and Hall, 1972; Wolman and Barker, 1965) have shown that initially nouns are defined in terms of the use which an object serves. For example, a "cup" would be defined as "to drink out of". Later children tend to define nouns by describing the objects to which they refer.

There are two major theories of vocabulary development: semantic feature hypothesis associated with Eve Clark and functional core theory associated with Katherine Nelson. These two theories were contrasted in the present study to determine which is a better explanation of noun definition development. Semantic feature hypothesis is linguistic in approach. This theory states that each word is defined through the features assigned to it as well as the way in which those features are ordered. For example, a feature assigned to the word "Ball" might be +round. Children are thought to learn the features attached to any word gradually. Furthermore, the first features learned are believed to be the concrete, directly observable characteristics of the object.

Functional core theory, on the other hand, is cognitive-linguistic in approach. The learning of noun definitions is viewed as a problem in concept development. In this case objects are observed in terms of the action or function they perform. The function is the core meaning of the word and is the first definition of the object held by the child. Within this theory the meaning of "ball" might be "to roll". As the child progresses cognitively, descriptive aspects of the object become part of its definition. These descriptive aspects are not truly definitional. They serve primarily to differentiate between different concepts and between instances of the same concept.

Either theory could account for the difference between child and adult noun definitions. If, as semantic feature hypothesis posits, features are learned gradually, beginning with the concrete, then the difference between adult and child definitions would be expected. From a cognitive standpoint, however, functional core theory is supported. Since the young child's concepts are tied to action, initial noun definitions should be tied to that action. Also, previous studies of noun definition development have found a shift from use or functional definitions to non-use definitions.

The purpose of the present study was to study the development of noun definition by contrasting the predictions of Eve Clark and Katherine Nelson. It was hypothesized that children would initially define words in terms of function. As they grow older, concrete aspects of the object become part of the definition. The study was important since the way in which word definitions are spontaneously acquired could influence the teaching of vocabulary in the schools.

To test this hypothesis 20 subjects in each of five grade levels, kindergarten, second, fourth, sixth, and adults, were asked to define 15 common nouns. The grade school was located in a middle class community in New Jersey. Nouns were chosen from a frequency of production list (Thorndike and Lorge, 1944) to ensure that all subjects would be familiar with the words. The 15 nouns are in Table 1 of the handout. Equal numbers of subjects at each grade level were randomly assigned to one of two conditions: with the objects present or without the objects present. That is, subjects were asked to define these 15 nouns either with or without a concrete example of the noun in front of them. This experimental manipulation enabled us to determine whether or not spontaneous definitions varied with a concrete referent. For example, if young children provided functional definitions when the objects were present, this would be strong support for functional core theory. To request definitions of the 15 nouns three question

frames were used: "What is an X?", "What does X mean?", and "What do you think an X is?". Word with question frame was randomized in each of the five lists used in the study.

Each definition given was categorized as concrete, functional, relational or a combination of these. See Table 2 of the handout for the definitions of the categories and examples. This yielded seven categories of definition. An additional category of NoResponse was also included. Concrete definitions were those which provided descriptive information about the object. Functional defintions were those which stated a use or action of the object. Relational definitions were those which provided an analogy. Categorized definitions were given a score of either two points or one point. The first definitions given by a subject was scored as two points. If a second definition was provided it received one point.

Prelininary analysis revealed that the majority of definitions were concrete, functional, or a combination of concrete and functional aspects of the objects, hereafter referred to as combinatorial. Therefore the data were collapsed to those three categories, which are illustrated in Table 2 of the handout.

These data were analyzed by use of a 5x2x3 (Grade by condition by category of definition) ANOVA with a repeated measure on category of definition. The analysis revealed a significant main effect for category ($F = 60.58$, $p < .001$) and a significant grade by category interaction ($F = 6.41$, $p < .001$). No significant effects involving experimental condition were obtained.

The mean scores by category are: concrete = 3.30, functional = 18.57 and combinatorial = 8.35. Given these means it is apparent that the main effect for category was due to the high mean of the functional scores relative to the other two categories. The main effect for category was subsumed by the grade by category interaction which depicted in Figure 1 of the handout.

The significant interaction of grade with category was due to two causes. One, with increasing age the number of functional definitions decreased and two, with increasing age the number of combinatorial definitions increased. The number of concrete definitions remained relatively low and constant across age groups.

These data reveal that the definitions of young children are functional. With increasing age concrete aspects of the object are added to the definition. Consequently functional core theory was supported. This transition occured at about the fourth grade. The major change between fourth grade and adult was simply in terms of the complexity of the descriptive information. Adults were much more detailed and precise. Even adults, though, considered function most important. Those aspects of the object were usually given first and adults found it difficult to provide concrete aspects of the object. This was because they tried to describe the object in such a way as to exclude all other possible objects.

One portion of the hypothesis was not supported however. It had been expected that adults would provide relational definitions or analogies. This was not the case. It may be that adults simply have the ability to make comparisons between objects. This ability is used only when needed however. Consequently a definition would not have a relational aspect. Rather, the person would make use of an analogy only when such a strategy was needed in order to make a definition more explicit.

Three conclusions can be drawn from this study:

1) Both children and adults consider function the main determinant of noun meaning.

2) Concrete aspects begin to be introduced at about the fourth grade and are used to distinguish between and within concepts, and

3) Use of analogies is a strategy to make a definition more explicit, not part of the definition itself.

The most important aspect of the study however, was its support of the functional core theory, a cognitive-linguistic explanation of noun definition development. It is apparent that these findings about the spontaneous progression of noun definition development should be incorporated into the teaching of vocabulary.

References

Clark, E. What's in a word? On the child's acquisition of semantics in his first language. In T. E. Moore (Ed.), Cognitive development and the acquisition of language. New York: Academic Press, 1973.

Nelson, K. Concept, word and sentence: interrelations in acquisition and development. Psychological Review, 1974, 81, 267-285.

Swartz, K. and Hall, A. Development of relational concepts and word definition in children five through eleven. Child Development, 1972, 43, 239-244.

Thorndike, E. and Lorge, I. The teacher's word book of 30,000 words. New York: Bureau of Publications, Teacher's College, Columbia University, 1944.

Wolman, R. and Barker, E. A developmental study of word definitions. Journal of Genetic Psychology, 1965, 107, 159-166.

Table 1

Fifteen Stimulus Nouns

Ball	clock	pail
bed	coat	shirt
book	cup	spoon
box	hat	table
chair	house	tree

Table 2

Examples of Definition Categories

Definition Type	Criterion	Example
Concrete	a. descriptive perceptual attributes	"a ball is round"
Functional	a. use of the object	"a ball is to bounce"
	b. action the object can perform	
Relational	a. analogy	"a ball is like the sun"
Combinatorial	a. aspects of concrete, functional and/or relational criterion in any combination	"a ball bounces and is round"

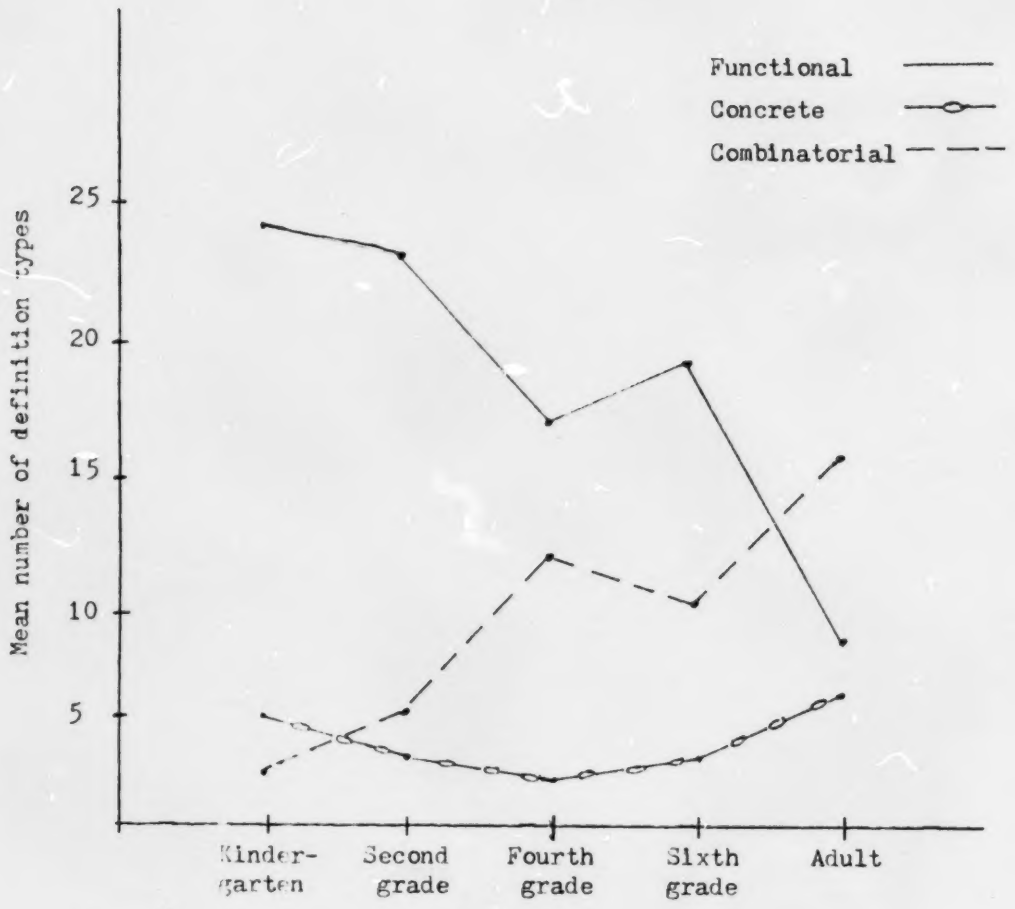

Figure 1. Mean number of definition types by group